

REMARKS

STATUS OF CLAIMS

Concurrently with filing of the RCE, claims 1 and 22 have been amended. Claim 2 has been canceled. Claims 1, 4-10, 14, 22-26 and 30 are now active in this application. No new matter has been added. Claims 11-13, 15-21, 27-29, 31 and 32 are withdrawn from consideration as directed to non-elected species.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 103

I. Claims 1, 2, 5-10, 14, 22-26 and 30 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons (USPN 6,734,911) in view of Anderson (USPN 7,106,376).

Claim 4 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons in view of Anderson, and in further view of Hanna et al. (USPN 6,714,665).

II. To expedite prosecution, claim 2 has been canceled and independent claim 1 has been amended to recite, *inter alia*:

...
a main subject detecting unit for detecting said main subject from said partial image and receiving main subject information, *wherein*
said image data input unit comprises a means for inputting a parallaxic image, which is generated by capturing one of said plurality of objects viewed from a plurality of different perspectives, and the image processing apparatus further comprises a depth distribution information receiving unit for receiving said depth distribution information calculated from said parallaxic image.

In addition, independent claim 22 has been amended to recite:

An image processing method, comprising:
inputting image data of a plurality of objects, *the image data is generated by capturing one of the plurality of objects viewed from a plurality of different perspectives*;
setting a searching range, which defines a depth length for searching a main subject in said image data;
extracting a partial image including said main subject from said image data based on depth distribution information indicating a distance to each of said plurality of objects included in said image data, a depth direction of said partial image being restricted to said searching range, *the depth distribution information being calculated from said image data*;
detecting said main subject in said partial image; and
receiving a predetermined main subject information relating to the detected said main subject.

Amended independent claims 1 and 22 now have the parallax image feature, in which a parallax image is generated by capturing one of the plurality of objects viewed from a plurality of different perspectives, and depth distribution information is (trigonometrically) calculated from the parallax image. This amendment is based on claim 2, as well as on the description at page 16, line 25 to page 17, line 3 of the originally filed specification.

Although the above-mentioned feature has been rejected by the Examiner based on Lyons, the rejection is respectfully traversed for the following reasons.

Lyons merely discloses different focal lengths in the radial and tangential planes (see column 5, lines 53-57) as shown in FIG. 1A. This results in an image of the plurality of objects (21, 21a, 22, and 23) as shown in FIG. 2B. However, this image shown in FIG. 2B is **NOT** a parallax image.

In this regard, according to McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Edition, the term "parallax," from which the term "parallaxic" is derived, is defined as "the

change in the apparent relative orientations of objects when viewed from different positions." Even more clearly, according to Merriam-Webster's Collegiate Dictionary, Tenth Edition principal copyright 1993, the term "parallax" is defined as "the apparent displacement or the difference in apparent direction of an object as seen from two different points not on a straight line with the object." Wikipedia, the free (online) encyclopedia similarly defines "parallax" (see enclosed copy of first page of Wikipedia for "parallax").

In summary, a parallax image is obtained when one object *is viewed from two or more different points or perspectives*.

In contrast, the image of objects, as shown in FIG. 2B of Lyons, merely shows multiple objects in one image, and does **NOT** show one object *viewed from multiple different points*. Consequently, there is no reasonable basis for the Examiner to interpret Lyons as having "a means for inputting a parallax image" (claim 1), or disclosing generating image data by "capturing one of the plurality of objects viewed from a plurality of different perspectives" (claim 22).

Applicant wishes to point out that the parallax image enables the present invention to obtain depth distribution information by trigonometric calculation. While Lyons, Anderson or Hanna et al. may perform *a focus scan* to obtain the depth distribution information, as described in Anderson (see figure 6A), none of these references performs any trigonometric calculation because *they have no parallax image* feature, as does the present invention.

In view of the above, independent claims 1 and 22, as amended, are patentable over Lyons and Anderson, as are dependent claims 4-10, 14, 23-26 and 30. Therefore, the allowance of claims 1, 4, 5-10, 14, 22-26 and 30, as amended, is respectfully solicited.

REJOINDER

If claims 1, 4-10, 14, 22-26 and 30 are allowed, claims 11-13, 15-21, 27-29 will depend from allowed claims. In such case, withdrawal of the restriction requirement as to claims 11-13, 15-21 and 27-29 [non-elected species], as well as their allowance are respectfully solicited (see MPEP § 821.04 Rejoinder).

CONCLUSION


In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Edward J. Wise Reg. No. 34,523 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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Attachment: Copy of Page 1 of 6 – Parallax - Wikipedia

Parallax

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From Wikipedia, the free encyclopedia

Parallax, or more accurately **motion parallax** (Greek: *παράλλαξις* (*parallagḗ*) = alteration) is the change of angular position of two stationary points relative to each other as seen by an observer, caused by the motion of an observer. Simply put, it is the shift of an object against a background caused by a change in observer position. If there is no parallax between two objects then they are side by side at the exact same height.

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Introduction

This parallax is often thought of as the 'apparent motion' of an object against a distant background because of a perspective shift, as seen in Figure 1. When viewed from **Viewpoint A**, the object appears to be closer to the blue square. When the viewpoint is changed to **Viewpoint B**, the object *appears* to have moved in front of the red square. It is most commonly used in astronomy.

Use in distance measurement

By observing parallax, measuring angles and using geometry, one can determine the distance to various objects. When this is in reference to stars, the effect is known as **stellar parallax**. The first successful measurements of a stellar parallax were made by Friedrich Bessel in 1838 , for the star 61 Cygni.

Distance measurement by parallax is a special case of the principle of triangulation, where one can solve for all the sides and angles in a network of triangles if, in addition to all the angles in the network, the length of only *one* side has been measured. Thus, the careful measurement of the length of one baseline can fix the scale of a triangulation network covering the whole nation. In parallax, the triangle is extremely long and narrow, and by measuring both its shortest side and the small top angle (the other two being close to 90 degrees), the long sides (in practice equal) can be determined.

Parallax error

Precise parallax measurements of distance usually have an associated error. Thus a parallax may be described as some angle \pm some angle-error. However this " \pm angle-error" will not translate directly into a \pm error for the range, except for relatively small errors. The reason for this is that an error toward a *smaller* angle results in a greater error in distance than an error toward a *larger* angle.

